CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed is:

1. (Currently Amended) An internal combustion engine system:

an internal combustion engine comprising a number of piston cylinders, a piston slidably disposed within each cylinder, each cylinder comprising an exhaust gas port disposed therethrough positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and that is covered when the piston moves upwardly in the cylinder towards the top of its stroke; and

means for ~~accommodating~~ receiving a volume of exhaust gas routed from the piston cylinder exhaust gas port of one piston cylinder when the piston within the cylinder is at the bottom of a work stroke, and directing the same volume of received gas to ~~for reintroduction back through~~ the exhaust gas port or another piston cylinder [~~and into the cylinder when the~~ having its piston ~~is~~ at the bottom of its compression stroke.

2. (Currently Amended) The system as recited in claim 1 comprising a number of means for ~~accommodating~~ receiving that are each in exhaust gas flow communication with the exhaust gas port of a respective piston cylinder.

3. (Currently Amended) The system as recited in claim 1 wherein the means for ~~accommodating~~ receiving comprises a ~~storage~~ tank that is external from the engine.

4. (Canceled)

5. (Original) The system as recited in claim 1 further comprising a turbocharger connected to the engine, the turbocharger including a turbine housing with an exhaust gas inlet that is in exhaust gas flow communication with one or more piston cylinder exhaust gas ports.

6. (Canceled)

7. (Currently Amended) An internal combustion engine system comprising:

an internal combustion engine comprising a number of piston cylinders;

a piston slidably disposed within each cylinder;

at least one exhaust valve and one intake valve positioned adjacent an end of each cylinder;

an exhaust gas port disposed through each piston cylinder positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and is covered when the piston is moved towards the top of its stroke; and means for ~~transferring~~ receiving a volume of exhaust gas from the exhaust gas port of at least one cylinder, and transferring the same volume of exhaust gas without adding air through an exhaust gas port of at least one other cylinder for combustion;

wherein exhaust gas passes through the exhaust port of each piston cylinder when the respective piston is at the bottom of its work stroke and is passed through the exhaust port of a different piston cylinder comprising a piston that is at the bottom of its compression stroke.

8. (Currently Amended) The system as recited in claim 7 wherein the means for ~~transferring~~ receiving and transferring is external from the engine.

9. (Original) The system as recited in claim 7 further comprising a turbocharger connected to the engine, the turbocharger including a turbine housing with an exhaust gas inlet that is in exhaust gas flow communication with one or more piston cylinder exhaust gas ports.

10. (Currently Amended) An internal combustion system comprising:

an internal combustion engine comprising a number of piston ~~cylinder~~ cylinders and ~~a piston~~ pistons slidably disposed ~~within the cylinder~~ therein, ~~the~~ each cylinder including an exhaust gas port disposed through a wall section of the cylinder and positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at the bottom of its stroke within the cylinder, and ~~an~~ the opening of the port is covered when the piston is moved towards the top of its stroke; ~~and~~

means for receiving exhaust gas from the exhaust gas port of one cylinder and transferring the receive exhaust gas to the exhaust gas port of another cylinder for combustion; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with ~~the~~ one or more of the exhaust gas ~~port~~ ports ~~wherein pulsed exhaust gas exits the piston cylinder through the exhaust port, when the piston is near a bottom portion of its work stroke, and is directed to the turbine wheel~~ to cause the turbocharger to produce boost air for directing to the engine.

11. (Original) The system as recited in claim 10 further comprising a valve interposed between the turbine wheel and the exhaust gas port to control the amount of exhaust gas directed to the turbine wheel.

12. (Currently Amended) An internal combustion system comprising:

an internal combustion engine comprising a piston cylinder and a piston slidably disposed within the cylinder, the cylinder including an exhaust gas port disposed through a wall section of the cylinder and positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at the bottom of its stroke within the cylinder, and an opening of the port is covered when the piston is moved towards the top of its stroke; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with the exhaust gas port;

wherein pulsed exhaust gas exits the piston cylinder through the exhaust port, when the piston is near a bottom portion of its work stroke, and is directed to the turbine wheel to cause the turbocharger to produce boost air for directing to the engine; and wherein ~~The pulsed turbocharger system as recited in claim 10~~ the internal combustion engine comprises ~~comprising~~ a number of piston cylinders each having the exhaust gas port, and a number of turbochargers each having a turbine wheel in gas flow communication with a respective exhaust gas port.

13. (Currently Amended) An internal combustion system comprising:

an internal combustion engine comprising a piston cylinder and a piston slidably disposed within the cylinder, the cylinder including an exhaust gas port disposed through a wall section of the cylinder and positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at the bottom of its stroke within the cylinder, and an opening of the port is covered when the piston is moved towards the top of its stroke; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with the exhaust gas port;

wherein pulsed exhaust gas exits the piston cylinder through the exhaust port, when the piston is near a bottom portion of its work stroke, and is directed to the turbine wheel to cause the turbocharger to produce boost air for directing to the engine;

~~The pulsed turbocharger system as recited in claim 10~~ wherein the turbine wheel only receives exhaust gas from the exhaust gas port.

14. (Canceled)

15. (Currently Amended) A pulsed turbocharger system:

an internal combustion engine comprising a number of piston cylinders;

a piston slidably disposed within each cylinder;

at least one exhaust valve and one intake valve positioned adjacent an end of each cylinder;

an exhaust gas port disposed through each piston cylinder positioned near a bottom portion of the cylinder so that an opening of the port is exposed when the piston is at a bottom of its stroke within the cylinder, and an opening of the port is covered when the piston is moved towards a top of its stroke, wherein the exhaust port of one cylinder is connected to the exhaust port of another cylinder to facilitate exhaust gas transfer therebetween;

a turbocharger connected to the engine comprising:

a turbine housing having an exhaust inlet in gas flow communication with the exhaust gas port, an exhaust outlet in gas flow communication with an exhaust flow from the engine, and a turbine wheel rotatably disposed therein; and

a compressor housing having an air inlet, a pressurized air outlet, and a compressor impeller rotatably disposed therein and connected with the turbine wheel, wherein the pressurized air outlet is in air flow communication with the engine intake valve;

wherein pulsed exhaust gas is directed to the turbine wheel when the piston is near a bottom portion of its work stroke in the cylinder, to cause the compressor impeller to produce boost air that is directed to piston cylinder during its intake stroke.

16. (Original) An internal combustion engine system:

an internal combustion engine comprising a number of piston cylinders, a piston slidably disposed within each cylinder, each cylinder comprising an exhaust gas port disposed therethrough positioned near a bottom portion of the cylinder so that the port is exposed when the piston is at the bottom of its stroke within the cylinder, and that is covered when the piston moves upwardly in the cylinder towards the top of its stroke;

means for accommodating a volume of exhaust gas routed from the piston cylinder exhaust gas port when the piston within the cylinder is at the bottom of a work stroke for reintroduction back through the exhaust gas port and into the cylinder when the piston is at the bottom of its compression stroke; and

a turbocharger connected to the engine and comprising a turbine wheel in exhaust gas flow communication with the exhaust gas port

wherein pulsed exhaust gas exits the piston cylinder through the exhaust port, when the piston is near a bottom portion of its work stroke, and is directed to the turbine wheel to cause the turbocharger to produce boost air for directing to the engine.